

Diode—Remote-Cutoff Pentode

9-PIN MINIATURE TYPE

For Automobile Radio Receivers Operating
Directly from 6-Cell Storage Batteries

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage range 10 to 15.9 volts

For longest life, it is recommended that the heater be operated within the voltage range of 11 to 14 volts.

Current (Approx.) at 12.6 volts 0.2 amp

Direct Interelectrode Capacitances:▲

Pentode Unit:

Grid No.1 to plate. 0.006 max. $\mu\mu\text{f}$

Grid No.1 to cathode, grid No.3
& internal shield, grid No.2,
and heater. 5.5 $\mu\mu\text{f}$

Plate to cathode, grid No.3
& internal shield, grid No.2,
and heater. 5.7 $\mu\mu\text{f}$

Diode Unit:

Plate to cathode, pentode grid No.3
& internal shield, and heater 3.7 $\mu\mu\text{f}$

Cathode to plate and heater 5.7 $\mu\mu\text{f}$

Pentode grid No.1 to diode plate. 0.018 max. $\mu\mu\text{f}$

Pentode plate to diode plate. 0.012 max. $\mu\mu\text{f}$

Pentode grid No.1 to diode cathode. 0.13 max. $\mu\mu\text{f}$

Pentode plate to diode cathode. 0.0016 max. $\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier (Pentode Unit):

Heater Voltage. 12.6 volts

Plate Voltage 12.6 volts

Grid No.3 Connected to cathode at socket

Grid-No.2 Voltage 12.6 volts

Grid-No.1 Voltage:

Developed across a 2.2-megohm

grid resistor -0.8 volt

Plate Resistance (Approx.). 0.3 megohm

Transconductance. 1500 μmhos

Plate Current 1.3 ma

Grid-No.2 Current 0.5 ma

Grid-No.1 Voltage (Approx.) for
transconductance (μmhos) = 10 -6 volts

Mechanical:

Operating Position. Any

Maximum Overall Length. 2-3/16"

Maximum Seated Length 1-15/16"

Length, Base Seat to Bulb Top (Excluding tip). 1-9/16" $\pm$ 3/32"

Diameter. 0.750" to 0.875"

Dimensional Outline See *General Section*



12DE8

Bulb. T6-1/2
 Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)
 Basing Designation for BOTTOM VIEW. 9HG

Pin 1 - Pentode Grid No.1		Pin 7 - Pentode Grid No.3, Internal Shield
Pin 2 - Diode Cathode		Pin 8 - Pentode Grid No.2
Pin 3 - Diode Plate		Pin 9 - Pentode Cathode
Pin 4 - Heater		
Pin 5 - Heater		
Pin 6 - Pentode Plate		

PENTODE UNIT — AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	30 max.	volts
GRID No.3 (SUPPRESSOR GRID)	Connect to cathode at socket	
GRID-No.2 (SCREEN-GRID) VOLTAGE	30 max.	volts
CATHODE CURRENT	20 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	30 max.	volts
Heater positive with respect to cathode.	30 max.	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance.	10 max.	megohms
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DIODE UNIT

Maximum Ratings, Design-Center Values:

PLATE CURRENT	5 max.	ma
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Characteristics, Instantaneous Test Condition:

Plate Current for plate volts = 5	20	ma
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▲ Without external shield.

